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[Plates xxv-xxxi.]

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NOTES ON AUSTRALIAN DIPTERA, No. xvi.

By J. R. MALLOCH.

(Communicated by I. M. Mackerras.)

(Four Text-figures.)

[Read 25th July, 1928.]

Family Ortalidae.

Subfamily PLATYSTOMINAE.

Genus EUPROSOPIA Macquart.

This genus occurs from China southward through the Orient to Australia, many of the species occurring in New Guinea, and five being recorded from Australia. Of the latter, *australis* (Walker) is unknown except from the original description, but even if it is a valid species the name is preoccupied by *australis* Macquart, which latter is a synonym of *maculipennis* Guérin.

A peculiar character of the genus is the haired basal section of radius. This vein is very frequently setulose in Ortalidae, but the setulae are almost always confined to that section of the vein beyond level of the humeral cross-vein. Another very striking feature of certain species of the genus is the forward extension of the tegula, which normally is but a small scale covering the root of the wing, and at first I was tempted to consider the species in which the tegulae are carried forward to the humeri as entitled to at least subgeneric distinction, an opinion which I subsequently abandoned on the discovery of the male with normal tegulae and on examining all the species available to me here.

Nothing is known of the economic status of the species of the genus, but amongst the material before me are two species which bear ms. labels 'ex corn' and 'ex scrub' respectively, though without further indication of what the 'ex' means.

I have included in the subjoined key all the species available to me which are likely to occur in Australia or which are new. It is extremely probable that there are many more species to be discovered in Australia.

Unfortunately most of the material before me belongs to the United States National Museum and some types must be deposited in that institution, so that they will not be available even on loan to Australian students of the family.

Key to the Species.

1. Scutellum with a quite pronounced linear depression in centre of apex, and on each side of it glossy black and pronouncedly convex 2
Scutellum without a distinct central depression at apex and lacking glossy black lateral areas 3
2. Hind margin of second abdominal tergite with pale lanceolate scales; apical dark spot on wing not connected with the preapical dark fascia, a dark streak on costa between the stigmal fasciae and the one over outer cross-vein .. *separata* Hendel

BRACHYDEUTERA PLEURALIS, n. sp.

Male and female.—Head brownish-black; frons dull; occiput brownish dusted above, lower half, cheeks, and face whitish-grey dusted, centre of latter darker; antennae black; palpi white. Thorax olivaceous black on dorsum, and with traces of three or five brown vittae, the humeral angles, and to a lesser extent the lateral margins of mesonotum, whitish-grey dusted; pleura entirely covered with dense whitish-grey dust; scutellum slightly grey dusted at base. Abdomen olivaceous black on dorsum, whitish-grey dusted on the incurved lateral parts of tergites, the pale parts showing slightly at anterior and posterior angles of tergites from above. Legs clay-yellow, coxae densely whitish-grey dusted, apices of mid and hind femora faintly brownish on upper surface, tarsi fuscous. Wings clear. Calypterae and halteres white.

Structurally similar to *sydneyensis* but smaller; the anterior notopleural bristle present; second wing-vein slightly curved; outer cross-vein slightly bent, its upper portion sloping slightly towards base of wing, and the fourth vein slightly deflected apically, causing the first posterior cell to be slightly widened at tip.

Length, 2.5 mm.

Type and allotype, Townsville, Queensland (F. H. Taylor).

The label bears the notation 'Larvae live in water', and mounted with each of the specimens is an empty puparium similar to that of the North American species.

Family Drosophilidae.

I present below the description of a new species belonging to one of the recently described genera closely related to *Drosophila*. I hope to be able to present an enlarged key to the Australian genera of this family shortly.

Genus LIODROSOPHILA Duda.

This genus is quite similar to *Drosophila* Fallen, but there is no closed anal cell in the wings, the anal vein being short and curved, but the cell is open. In most characters the genera agree quite closely, but in the only species I have seen from Australia and in most of the other species of *Liodrosophila* the thorax or abdomen is at least partly metallic blue or green.

The species described below appears to be distinct from any already known, though rather similar to *metallescens* de Meijere, which occurs in Java, Formosa, and New Guinea.

LIODROSOPHILA AUSTRALIS, n. sp.

Female.—Head fulvous yellow, frons entirely glossy, and with a metallic blue tinge except in front; antennae and palpi concolorous with head. Thorax glossy fulvous yellow, mesonotum gradually becoming more deeply suffused with metallic blue from middle to hind margin; scutellum dull fulvous yellow, paler at apex. Abdomen entirely metallic dark violet-blue above, the sternites yellowish; hairs and bristles black. Legs yellow. Wings clear, with an oblique dark cloud running from alulae forward along first vein to costa. Knobs of halteres dark brown.

Frons at vertex as wide as long in centre; postverticals short; all vertical bristles and the ocellars long and strong; proclinate and posterior reclinate orbital long, anterior reclinate very short; some setulose hairs in a curved series above antennae on each side extending backward to about middle of frons; arista with four rays above and two below; facial keel long, and rather flat above.

Thorax with about eight series of intradorsocentral hairs, two pairs of dorso-centrals, no prescutellar acrostichals, and two long sternopleurals; basal pair of scutellar bristles not half as long as apical pair. Legs normal. Second and third costal divisions of wing subequal; penultimate section of fourth vein about two-thirds as long as ultimate section.

Length, 2 mm.

Type, Mossman, Queensland (F. H. Taylor).

Family Sapromyzidae.

Genus SAPROMYZA Fallen.

I have already presented descriptions of many species of this genus and given a synoptic key for the identification of most of them. Since the key was published I have had access to more material and the appearance of the descriptions of many new species of the genus in two recent papers has made the key quite inadequate for purposes of identification. I therefore present below a new key, which I hope will serve to identify the 43 already described species, and have a longer period of usefulness than the preceding one. It is of course quite evident to me that there are many still undiscovered species of the genus in Australia, because with almost every lot submitted there are species which I have not previously seen, so that it will be merely a matter of time until this key also is out of date, and the sooner more material is available, especially from localities other than those from which the previous shipments emanated, the sooner this will take place.

I describe one new species in this paper, and also redescribe a species of Macquart's which he placed in *Sciomyza*. This species is redescribed from the type specimen and, unless most of Macquart's other species are available in type material, it will be impossible to place them correctly, as many were described in genera to which they do not belong, and only colour characters were used in his descriptions.

Key to the species.

1. Thorax with four pairs of strong dorsocentrals, the anterior pair in front of suture 2
 Thorax with three pairs of dorsocentrals, the anterior pair slightly, or distinctly, behind suture, and sometimes rather short and weak 12
2. Wings distinctly marked with dark colour, or almost entirely fuscous 3
 Wings yellowish or greyish hyaline, without dark markings 6
3. Fore femur with an anteroventral comb of minute setulae apically; thorax with about five pairs of strong acrostichal bristles; arista long haired 4
 Fore femur without an anteroventral comb; thorax without strong acrostichals except the prescutellar pair, only weak hairs present in two series anteriorly; arista microscopically pubescent 5
4. Wing with a dark brown cloud on costa from apex of auxiliary vein to tip, which becomes paler behind and disappears at or before reaching fourth vein, and does not connect with the two clouds over the cross-veins; thorax densely grey dusted, with six broken brown vittae on dorsum *plumiset* Malloch
 Wing with a blackish-brown cloud from apex of auxiliary vein to tip, which extends inward over third vein from just beyond the cloud over inner cross-vein, but does not connect with the latter, and fuses with the one on middle of apical section of fourth vein, the second posterior and anal cells with fainter dark clouds; thorax densely grey dusted, with four brown vittae, the submedian pair narrower, fused behind, and carried over disc of scutellum *petersoni* Malloch
5. Wings infuscated at bases, the dark colour extending to a little beyond humeral cross-vein, to furcation of second and third veins, and to apices of the basal